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Notes ID: 567B78089D98F0E786257910008103A0
From: Robert Puls/ADA/USEPA/US
To: chris.hill@chk.com
Copy To: john.satterfield@chk.com; "Gene Florentino" <GFlorentino@ene.com>
Delivered Date: 09/19/2011 07:29 PM EDT
Subject: Re: QAPP Comments

ATTACHMENT: Image.image001.png@01CC7156.A0C1E6D0.png
I finally looked at this and remembered why I hadnt reviewed it. With my EPA computer set up I cannot save all these files at once like I can at work. I have to open each and every one and save them individually. Just havent had the time while on travel (on last rip couldnt even access) or at home (have other things more important going on at home right now). Maybe I will have time tomorrow at home but likely wont till Wed at work.

Robert W. Puls, Ph.D.
Agency Technical Lead, Hydraulic Fracturing Study
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-----Chris Hill <chris.hill@chk.com> wrote: -----
To: Robert Puls/ADA/USEPA/US@EPA
From: Chris Hill <chris.hill@chk.com>
Date: 09/12/2011 06:30PM
Cc: John Satterfield <john.satterfield@chk.com>
Subject: QAPP Comments

Bob,

Chesapeake (CHK) appreciates the opportunity to partner with the EPA in this important study. On August 22, the EPA provided CHK with a draft Quality Assurance Project Plan (QAPP) and associate documents (See attached email "Re: Hayneville QAPP"). Since this point in time, the EPA and CHK work group has had a number of valuable discussion regarding the draft QAPP content. Based on these discussions, it is our understanding that some of the content of the draft QAPP is most likely out-dated and there are critical elements that should be incorporated in to the document prior to conducting any field activity. CHK is providing the attached preliminary comments (EPA HF Study – Draft QAPP Comments) based on the content of the draft QAPP. In addition, we have attached a number of internal documents that we believe will assist the EPA in their continually pursuit of a comprehensive project plan that is defensible and based on sound science.

Attached Documents:

· Five (5) CHK well chemical disclosure forms (all wells within a 5 mile radius of the study well).

· Surface plat for pad and access road.

· Draft produced water and baseline sampling SOPs

· Draft Data Quality Evaluation and Validation Procedures

· List of analytes CHK expects to test for with corresponding methods identified

· CHK version of QAPP Table 8 Sample Collection

On Sept. 31, the EPA requested (See attached email "Re: revised proposed MW locations, soil sample locations") for the team to alter our plans to look at the QAPP in its entirety, and focus our review on content required for the baseline portion of the project (e.g., monitoring well layout, design, and construction; baseline sampling and analysis methods (groundwater, surface water, and soil); etc.). At this time we believe that critical elements necessary to provide comprehensive comments on the baseline components of the study have not been provided by the EPA. However, we look forward to working with the EPA in their continual effort to develop the QAPP and incorporate these elements.

Please let me know if you have any immediate questions. Once again, Chesapeake appreciates the opportunity to partner with the EPA in this important study.

Thank you,

Chris Hill
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Declare energy independence

----- Message from "Puls.Robert@epamail.epa.gov" <Puls.Robert@epamail.epa.gov> on Mon, 22 Aug 2011 21:59:39 +0000 -----

To: "GFlorentino@ene.com" <GFlorentino@ene.com>, Chris Hill <chris.hill@chk.com>
cc: "Mravik.Susan@epamail.epa.gov" <Mravik.Susan@epamail.epa.gov>
Subject: Re: Haynesville QAPP

I have made some comments, edits.

Chris - please share within the group and pay particular attention to flowback/produced water sampling section. Welcome comments.

Robert W. Puls, Ph.D.
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-----"Florentino, Gene" <GFlorentino@ene.com> wrote: -----
To: Robert Puls/ADA/USEPA/US@EPA, Susan Mravik/ADA/USEPA/US@EPA
From: "Florentino, Gene" <GFlorentino@ene.com>
Date: 08/19/2011 04:16PM
Cc: "Lukert, George" <GLukert@ene.com>
Subject: Haynesville QAPP
(See attached file: Fig4_SoilSampleLocations.pdf)
(See attached file: Figure2_StudyWell.pdf)
(See attached file: Figure3_OG_WaterWell.pdf)
(See attached file: GWERD Quality Assurance Project Plan_Haynesville_ENE_v1.docx)

Bob,

Attached is the Haynesville QAPP and some new figures. All changes are tracked, so it looks a bit sloppy. We had numerous questions. Please let me know if you want to discuss before forwarding to Chesapeake.

Have a good weekend!

Gene Florentino, PG

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Celebrating 40 Years of Green Solutions

----- Message from "Puls.Robert@epamail.epa.gov" <Puls.Robert@epamail.epa.gov>
on Wed, 31 Aug 2011 15:50:25 +0000 -----

To: "Puls.Robert@epamail.epa.gov" <Puls.Robert@epamail.epa.gov>
cc: Chris Hill <chris.hill@chk.com>, "cquina@ene.com" <cquina@ene.com>,
"Florentino, Gene" <GFlorentino@ene.com>, "Lukert, George" <GLukert@ene.com>,
John Satterfield <john.satterfield@chk.com>,
"Overbay.Michael@epamail.epa.gov" <Overbay.Michael@epamail.epa.gov>,
"Mravik.Susan@epamail.epa.gov" <Mravik.Susan@epamail.epa.gov>
Subject: Re: revised proposed MW locations, soil sample locations
Upon further consideration I suggest the following and we can discuss this Friday. But for now: George, please make the changes I suggest and distribute so we all have something to look at this Fri.

I suggest the following:
a total of 3-3 well clusters; one located 3-4 meters downgradient of the production well; the other 2 located about 15 meters downgradient and separated by about 10 meters
a 2-well cluster upgradient about 15 meters (longer screens than the 3 well clusters (screen lengths TBD following geophysics from open hole drilled through the entire thickness of the surficial aquifer
1 deep well located about 400 meters from the end of the lateral, on top of the lateral location and completed in the first water bearing zone beneath the surficial aquifer (i.e. a different aquifer)

I further suggest we alter our plans to do the QAPP in its entirety at this time. All we need to address right now is the baseline sampling program. This would include soil sampling, well design/construction, sampling of monitoring wells and private wells and all the associated field and lab methods and analyses..

As far as geophysics consider the following:
downhole video
3-arm caliper
natural gamma
electromagnetic induction
single point resistance
self potential
long and short normal resistivity
acoustic and optical televiewer with borehole deviation
fluid conductivity-- logged under ambient and pumped conditions
fluid temperature-- logged under ambient and pumped conditions
heat-pulse flowmeter or EM flowmeter -- logged under ambient and pumped conditions

Robert W. Puls, Ph.D.
Agency technical Lead, Hydraulic Fracturing Study

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From: Robert Puls/ADA/USEPA/US
To: chris Hill <chris.hill@chk.com>, puls.robert@epa.gov, "Florentino, Gene" <GFlorentino@ene.com>, "Lukert, George" <GLukert@ene.com>, cquina@ene.com, John Satterfield <john.satterfield@chk.com>, Susan Mravik/ADA/USEPA/US@EPA, Michael Overbay/R6/USEPA/US@EPA
Date: 08/30/2011 01:07 PM
Subject: revised proposed MW locations, soil sample locations

[attachment "Fig4_SoilSampleLocations Rev 082911.pdf" deleted by Robert Puls/ADA/USEPA/US] [attachment "Figure3_OG_WaterWell Rev 082911.pdf" deleted by Robert Puls/ADA/USEPA/US]

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Robert Puls/ADA/USEPA/US]
[attachment "HFstudyQAP_Produced_Flowback_Sampling_Section.doc" removed by Robert Puls/ADA/USEPA/US]
[attachment "Table 8. CHK Prosective HF Parameter List.xlsx" removed by Robert Puls/ADA/USEPA/US]
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